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Nothing *unfortunate* about disagreements in sport self-talk research: Reply to Van Raalte, Vincent, Dickens, and Brewer (2019)

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Self-talk is one of the classic topics in sports and exercise psychology (Vealey, 1994). Since the first studies of self-talk in sports, the literature has steadily grown to a point where the concept of self-talk represented various psychological processes and skills (Hardy, Comoutos, & Hatzigeorgiadis, 2018). In our review article, we had identified developments in self-talk that led us to propose a new integrative conceptualization that both reflects previous approaches and evidence and facilitates a more coherent body of research conducted in the future (Latinjak, Hatzigeorgiadis, Comoutos, & Hardy, 2019). Accordingly, self-talk takes form in verbalizations addressed to the self, overtly or covertly, characterized by interpretative elements associated to their content, and it either (a) reflects dynamic interplays between organic, spontaneous and goal-directed cognitive processes or (b) conveys messages to activate responses through the use of predetermined cues developed strategically, to achieve performance related outcomes.

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In a spirit of constructive criticism, Van Raalte, Vincent, Dickens, and Brewer (2019) voiced concerns about our work; we address their main points in this reply. Chiefly, Van Raalte, Vincent, Dickens et al. expressed their concerns about (a) the conceptual approach and the proposed "common language" for the discussion of self-talk; (b) the limited benefits of how our approach, which focuses on taxonomy and categorization, could serve as a guide for future research; and (c) the validity of the self-talk assessment in sports self-talk literature (a topic we note was outside of our original article). Although there are a few issues we might quibble about, in the following sections, we look at Van Raalte, Vincent, Dickens et al.'s three overarching criticisms to provide a balanced perspective on each of them and, when appropriate, clarify out our own stance on the matter.

The conceptual approach

The most fundamental distinction that we make within the self-talk phenomena distinguishes organic self-talk as part of human cognition from the use of strategic self-talk. We describe organic self-talk as verbalizations, addressed to the self, that reflect various spontaneous and goal-directed psychological events (Latinjak, Hatzigeorgiadis, et al., 2019). Importantly, this self-talk is not a constituent of an intervention, although it can be indirectly influenced by interventions such as cognitive–behavioral therapy or mindfulness-acceptance approaches. On the other hand, strategic self-talk is described as a process of mechanically verbalizing predetermined keywords and phrases to achieve performance-related outcomes (e.g., Galanis, Hatzigeorgiadis, Comoutos, Charachousi, & Sanchez, 2018). Ziegler (1987), in her classic study, even named these procedures *self-cueing* instead of self-talk. Strategic self-talk has been examined in many intervention studies, which have generally evidenced its potential to be beneficial in sport.

Overall, organic self-talk is the result of sustained psychological and cognitive processes, whereas strategic self-talk is more based on behavioral rules, as predetermined plans have to be followed (Latinjak, Hatzigeorgiadis, et al., 2019). On the one hand, an athlete can debate internally after a mistake, where the mistake was, and how it can be resolved in the future (e.g., "I hit the ball way too late" or "Move quickly to get a better position next time"). On the other hand, an athlete can repeat cue words (e.g., fast [to prepare to receive the ball]) at set times (e.g., when the ball is moving in his or her direction) as determined before the game.

Contrary to our stance, Van Raalte, Vincent, Dickens, et al. (2019) argued that there was a lack of theoretical clarity and empirical support to distinguish strategic self-

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talk from naturally occurring organic self-talk. In particular, Van Raalte, Vincent, Dickens et al. reasoned that strategic self-talk has considerable overlap with self-talk that can be considered as organic, goal-directed self-talk. In their view, strategic and organic goal-directed self-talk are (a) predetermined, (b) fixed, and (c) typically said out loud. Van Raalte, Vincent, Dickens et al. claimed that these categories are not orthogonal. They affirmed that it might be useful to consider them as belonging to the same category, as non-mutually exclusive categories have limited benefits.

Although we agree that strategic and goal-directed self-talk have some similarities, especially with regard to their use for performance enhancement, we would never consider self-talk as simultaneously belonging to both categories. Goal-directed and strategic self-talk differ in their origin and use. While the content and use of cue words in strategic self-talk are always predetermined and frequently fixed (which is not always related to the self-determination of self-talk content; Hardy, 2006), the decision to use goal-directed self-talk results always from momentary events. Characteristically, the content of goal-directed self-talk is never predetermined, and the time of verbalization is never prefixed, since both the content and the timing arise from ongoing cognitive self-regulatory processes. Conversely, strategic self-talk arises from predetermined plans.

With regard to the self-talk dimension, which is referred to as overtness, Hardy (2006) conceived this as a spectrum: from self-talk said silently (covertly) to self-talk said out aloud (overtly). It is important that the overtness of self-talk is independent of its origins. That strategic and goal directed self-talk can be expressed at times either overtly or covertly by no means justifies that “it may be useful to consider them as belonging to the same category because categories that are not mutually exclusive have limited utility.” With this overtness justification in mind, spontaneous and goal-directed (or System 1 and System 2) self-talk are not mutually exclusive, and their distinction would therefore make little sense (which is incorrect). Self-talk is an overarching concept, and naturally, there are common attributes that describe its various subordinate components.

Some specific conceptually oriented discussion points deserve further consideration. First, regarding awareness in goal-directed self-talk, we refer to arguments related to automatic and unconscious use of psychological skills (Nicholls & Polman, 2007). The prevailing view is that some level of conscious control is always required, although psychological skills can become routine (Crocker, Tamminen, & Gaudreau, 2015). For instance, some statements can become mantras and pronounced almost automatically. Nevertheless, their use is always based on a certain degree of

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consciousness. Second, concerning strategic self-talk that is normally part of interventions (Hatzigeorgiadis, Zourbanos, Galanis, & Theodorakis, 2011), we recognize that it may also stem from reflections from the athlete. However, these considerations do not take place during but before the sport. In this sense, it is a strategic but self-managed intervention when, for example, athletes decide at home which keywords they use later during training (i.e., self-talk use is predetermined and prefixed).

Third, strategic self-talk interventions, like so many other events in life, can shape athletes' goal-directed self-talk when athletes decide, during sport practice, to use the keywords they have previously trained with (Latinjak, Hatzigeorgiadis, et al., 2019). Fourth, although we recognize a clear conceptual difference between strategic and goal-directed self-talk, no study has yet attempted to compare their neurobiological cores. However, very closely related to this topic, Alderson-Day et al. (2016) have compared neurological activation patterns between nomologic inner speech (similar to the use of cue words and phrases as strategic self-talk) and dialogic inner speech (similar to the interplay between spontaneous and goal-directed self-talk). The results showed that different types of self-talk are indeed neurologically distinguished phenomena.

Another cornerstone of our conceptualization is the subdivision of organic self-talk into spontaneous and goal-directed subtypes. Spontaneous self-talk consists of verbalizations that arise unintentionally and effortlessly. Goal-directed self-talk, on the other hand, is described as a verbalization intentionally used to solve a problem or progress on a task (Latinjak, Zourbanos, López-Ros, & Hatzigeorgiadis, 2014). Van Raalte, Vincent, Dickens, et al. (2019) argued that the terms spontaneous and goal-directed are domain-specific and therefore do not have the breadth of the two-factor model language (i.e., System 1 and System 2) already established in many areas of psychology. Nevertheless, the spontaneous/goal-directed terminology has already gained a foothold in the lexicon of other research groups (Boudreault, Trottier, & Provencher, 2018; Hase, Hood, Moore, & Freeman, 2019; Tay, Valshtein, Krott, & Oettingen, 2019; Walter, Nikoleizig, & Alfermann, 2019).

There is agreement in that spontaneous self-talk overlaps with System 1 self-talk and that goal-directed self-talk is akin to System 2 self-talk. Both our views are derived from traditional two-factor thought models (Kahneman, 2011) that have been used in various areas of sports and exercise psychology (Furley, Schweizer, & Bertrams, 2015). However, we prefer the terms spontaneous and goal-directed because such labelling is more explicit and easily understood by nonexperts, applied practitioners, coaches, and

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athletes. The function of concepts is to specify the features, attributes, or properties of a phenomenon (Podsakoff, MacKenzie, & Podsakoff, 2016). We believe that our spontaneous/goal-directed terminology better meets this requirement than System 1 and System 2 labels.

Irrespective of the terminology used, when considering both types of organic (i.e., spontaneous and goal-directed) self-talk, the crux of the matter for their distinction is cognitive origin: (a) be it a spontaneous expression of psychological processes such as emotions, motivation or performance beliefs or (b) a deliberate effort to strengthen the self-control necessary to achieve relevant goals. We are of the belief that cognitive origins are far more important for the categorization of organic self-talk than the content of the self-talk to which Van Raalte, Vincent, Dickens, et al. (2019) have referred in their argument. They rightly noticed that saying "bend your knees" is spontaneous when it comes out of anger or goal-directed when it identifies mistakes and informs of potential for improvement. However, rather than the content of the statements, the salient issue concerning spontaneous and goal-directed self-talk is the role they play in cognitive self-regulation. Spontaneous self-talk is a default process that helps raise awareness of current experiences and identify psychological challenges (Van Raalte, Vincent, & Brewer, 2016). Its counterpart, goal-directed self-talk, is specifically used to select and apply psychological skills as soon as a psychological challenge has been identified (Latinjak, Hatzigeorgiadis, et al., 2019).

Testable hypotheses

In addition to the abovementioned conceptual challenges, Van Raalte, Vincent, Dickens, et al. (2019) have made several additional comments. The first referred to the verifiable hypothesis proposed in our work, or more precisely to the absence of these hypotheses. In particular, Van Raalte, Vincent, Dickens et al. argued that our review contained relatively few verifiable hypotheses. They quoted our suggestion that research ideas can be grouped around the specific subtypes of self-talk (e.g., research on goal-directed self-talk) or across self-talk types (e.g., research on the relation between spontaneous and goal-directed self-talk). However, they criticized that the only guidance we gave to other researchers was to use our conceptualization approach.

We agree that only a few hypotheses have been explicitly stated. We do not believe that worthwhile conceptual models must necessarily incorporate hypotheses for them to be valuable. For a comparison, the interested reader is referred to Carron, Widmeyer, and Brawley's (1985) highly influential conceptual framework of team

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cohesion that helped to offer both clarity within the sports psychology literature as well as attract praise from outside it. In addition, we have, of course, proposed our conceptualization in the hope that other authors will use it to clarify what kind of self-talk they refer to in their research. This should allow clearer communication between researchers, facilitate a cleaner comparison between self-talk studies, and support the consolidation of an increasingly diverse self-talk literature. It is not unreasonable to believe that the quality of a synthesis of a research area should be measured by its impact on literature by providing an incentive for new research and more inclusive theories (Chun, Golomb, & Turk-Browne, 2011). In this sense, the purpose of our review was not to present a self-talk model similar to Hardy, Oliver, and Tod (2009) or Van Raalte et al. (2016) that implies a series of revealing testable hypotheses. Instead, the purpose of our review was to present a conceptualization of self-talk that resonates with self-talk researchers. In other words, we wanted to inspire researchers in the fields of sports and exercise psychology, sports science, and psychology to use self-talk in its various forms as variables in their empirical research and as constructs in the elaboration of integrative theories. Of course, such an endeavor will ultimately contribute to the development of new and fascinating research questions.

Dialogic self-talk nature

Van Raalte, Vincent, Dickens, et al. (2019) also argued that we had overlooked recent speculation that self-talk is dialogical in nature. We would like to point out that this is inaccurate. In our review we have highlighted a study in which the dynamic interplay of spontaneous and goal-directed self-talk was explicitly explored (Latinjak, 2018). The results of this study showed a strong sequential relationship between spontaneous and goal-directed self-talk, reinforcing the suggestion that intuitive thinking processes, including spontaneous self-talk, occur ahead of rational processes, including goal-directed self-talk (Kahneman, 2011; Van Raalte et al., 2016). Evidence of inverse sequencing also emerged with reports of spontaneous self-talk occurring after goal-directed self-talk, suggesting that the former may also represent the intuitive response to the latter. Following findings of this and many other studies on inner dialogue (Alderson-Day et al., 2016), we have explicitly referred in our conceptualization to the dialogic nature of the self-talk and mentioned the “dynamic interplays between organic, spontaneous and goal-directed cognitive processes” (Latinjak, Hatzigeorgiadis, et al., 2019; p. 363). All in all, we would conclude that Van Raalte, Vincent, Dickens et al. agree

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with our view that the dynamics of inner dialogue are a high priority for future self-talk research to address.

Self-talk Assessment

Another important concern of Van Raalte, Vincent, Dickens, et al. (2019) deals with the assessment of self-talk. Although we argue that all self-talk sampling methods have advantages and limitations, we consider it inappropriate that Van Raalte, Vincent, Dickens et al. chose to comment to our review in order to present an argument in favor of their preferred method (descriptive experience sampling) over other methods, especially as the authors have previously introduced the method (Dickens, Van Raalte, & Hurlburt, 2018 and Van Raalte, Vincent, & Dickens, 2019). Their main argument against the methodological approaches that we have used in our previous research (Latinjak, Masó, & Comoutos, 2018; Latinjak et al., 2014; Zourbanos, Hatzigeorgiadis, Chroni, Theodorakis, & Papaioannou, 2009) centered around two complementary criticisms regarding sampling and categorization. With regard to sampling, Van Raalte, Vincent, Dickens et al. argued that we made extensive use of questionnaire-based data without addressing relevant issues of validity. We would like to give a general answer, as self-talk measurement is itself a challenging research topic (Brinthaupt, Benson, Kang, & Moore, 2015).

First and foremost, it must be acknowledged that all thought sampling methods have limitations (de Guerrero, 2005). This is mainly due to the often hidden and subjective nature of the phenomenon (Brinthaupt et al., 2015). Therefore, the use of multiple data-sampling approaches with different respective advantages and limitations has been advocated (Alderson- Day & Fernyhough, 2015; Latinjak, 2018). In our research, we have repeatedly used retrospective techniques to create a pool of self-statements that athletes use to express current psychological experiences or self-regulate and progress on a task (Latinjak et al., 2018). This method has been endorsed for its open-ended format, which encourages volunteers to list self-generated instances of inner speech as opposed to theoretically preconceived contents (Morin, Duhnych, & Racy, 2018). Of course, like all methods, it comes with limitations, mainly related to mnemonic biases associated with its retrospective nature, attentional bias, leading participants to be more aware of some self-talk than others, and report bias, where volunteers may be more willing to report some self-talk than others. Yet, in sport specifically, this method has been useful in analyzing self-statements that can later be subdivided into relevant self-talk categories (Hardy, Gammage, & Hall, 2001; Latinjak et al., 2014).

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Another method that has helped to advance our understanding of self-talk involves psychometric questionnaires, such as the Automatic Self-Talk Questionnaire for Sports (ASTQS; Zourbanos et al., 2009). The ASTQS has been validated, adapted to other languages (Latinjak, Viladrich, Alcaraz, & Torregrosa, 2016), and used repeatedly to study organic self-talk in relation to variables such as self-efficacy, flow, and motivation (Ada, Comoutos, Karamitrou, & Kazak, 2019; Karamitrou, Comoutos, Hatzigeorgiadis, & Theodorakis, 2017; Zourbanos et al., 2016). However, as the ASTQS was developed before distinguishing between spontaneous and goal-directed self-talk, a review of the instrument is timely in order to confirm (or not) its utility for continuing to advance the area.

Other sampling methods in which self-talk is recorded shortly after it occurs involve immediate recall procedures (Latinjak et al., 2018) and include naturalistic video-assisted approaches (Martinent, Ledos, Ferrand, Campo, & Nicolas, 2015). These methods have proven effective when studying the relation between organic self-talk and other psychological processes, such as emotions and performance. Finally, as promoted by Van Raalte, Vincent, Dickens, et al. (2019), instances of self-talk can also be collected while they appear via concurrent self-talk sampling procedures (Van Raalte et al., 2019). On one hand, these are the only procedures that provide samples of self-talk that has definitely occurred. On the other hand, questions are raised as to how far these data collection processes change the natural occurrence of self-talk (Greco, 2017). Clearly, the descriptive experience sampling technique has its strengths; nonetheless, we do not believe it is the panacea for the assessment of self-talk. Despite the criticisms of each procedure, we concur with Alderson-Day and Fernyhough (2015) that a wide range of methods and approaches is the solution to the challenge of studying self-talk scientifically. Of importance is whether the researcher's approach is "fit for purpose"; that is, its fit with the research question being investigated.

In addition to data sampling, a second methodological problem identified by Van Raalte, Vincent, Dickens, et al. (2019) relates to the categorization of data in self-talk research. They pointed out that the existing self-talk literature may be based on researcher-created categories and functions identified by researchers rather than on actual experiences of athletes. With particular regard to our conceptual model of self-talk, Van Raalte, Vincent, Dickens et al. argued that the integrative conceptualization is built on dubious foundations that we have not addressed critically. To what extent we have addressed such issues in the limitation sections of our articles is not worth discussing. We

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seem to all agree that the interpretations of researchers and athletes differ when it comes to categorizing organic self-talk statements (Latinjak, Hatzigeorgiadis, & Zourbanos, 2017; Van Raalte, Cornelius, Copeskey, & Brewer, 2014). However, it is important that we do not assume that the interpretations of athletes are more important than those of researchers.

Although it is obvious that researchers have limited access to the interpretive element of self-talk (Hardy, 2006), it is also reasonable to assume that athletes are sometimes unaware of the functions of their self-talk. In addition, the judgment of athletes could be distorted, for example, by the impact their self-talk has had on subsequent performance. We believe that researcher-created categories may have greater theoretical value, as researchers are best placed, for example, to link goal-directed self-talk functions to important theories in sports psychology, leading to integrative outcomes (see, for examples, Latinjak et al., 2014; Van Raalte, Morrey, Cornelius, & Brewer, 2015). As a point in case, we recently linked goal-directed statements such as “try and have fun” or “you owe it to the team” to aspects of self-determination theory (i.e., intrinsic and introjected behavioral regulations, respectively; Latinjak, Torregrossa, Comoutos, Hernando-Gimeno, & Ramis, 2019). Regardless of this, we also recognize that the participation of athletes in the categorization procedures in (idiosyncratic) self-talk studies is essential to grasp the authentic self-talk experience (Miles & Neil, 2013).

Conclusions

To conclude, we propose to researchers in terms of self-talk research methods to provide detailed reasons for the selected methods in their studies. Any method can lead to insightful results, and every method has limitations. A one size-fits-all approach, whether questionnaires or descriptive experience sampling, cannot adequately represent a phenomenon that is not accessible by objective means. We must recognize the limitations of all methods, accept the use of different sampling methods, and, when the literature base surrounding organic self-talk has grown sufficiently, appraise the results derived from different approaches. We would expect such reviews to eventually highlight similarities across self-talk reports that point toward the facets of the self-talk literature that are more trustworthy.

With a similar spirit, we also appreciate the current discussion about conceptualization as an important step forward in the self-talk literature. In science, both argumentation and critique are essential to new knowledge (Osborne, 2010). Although Van Raalte, Vincent, Dickens, et al. (2019) rated our work as unfortunate on four

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occasions in their comment, we prefer to see our discrepancies with Judy Van Raalte's research group as growth opportunities. Although strong opinions and personal identification with ideas often lead to misinterpretation of evidence (Lench, Bench, & Flores, 2013), insightful and challenging comments trigger further reflection and clarification of theory. For example, it was a misinterpretation to infer from our review that goal-directed self-talk is ever predetermined or prefixed. However, it provided a welcomed opportunity to comment on four aspects critical to the distinction between organic and strategic self-talk: conscious use of goal-directed self-talk; self-managed strategic self-talk interventions; transference of strategic cue words into organic, goal-directed self-talk; as well as organic and strategic self-talk as neurologically distinguished phenomena.

Moreover, despite our discrepancies, which are still to be solved in sports self-talk research, we see a decisive agreement between the works of various research groups. Some self-talk, spontaneous or System 1, reflects current psychological processes and facilitates awareness or anticipation of psychological challenges (Van Raalte et al., 2016). Other self-talk, goal-directed or System 2, is used as a psychological skill that leads to various forms of self-regulation. We therefore agree that (organic) self-talk is a key mechanism for self-control. It plays a critical role in raising awareness of psychological challenges, in selecting psychological skills, in supporting the exercise of such skills, and in monitoring changes concerning the original psychological challenge.

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References

Ada, E. N., Comoutos, N., Karamitrou, A., & Kazak, Z. (2019). Relationships between dispositional flow, motivational climate, and self-talk in physical education classes. *Physical Educator*, *76*(2), 357-384. doi:10.18666/TPE-2019-V76-I2-8419

Alderson-Day, B., & Fernyhough, C. (2015). Inner speech: development, cognitive functions, phenomenology, and neurobiology. *Psychological Bulletin*, *141*(5), 931-965. http://dx.doi.org/10.1037/bul0000021

Alderson-Day, B., Weis, S., McCarthy-Jones, S., Moseley, P., Smailes, D., & Fernyhough, C. (2016). The brain's conversation with itself: Neural substrates of dialogic inner speech. *Social Cognitive and Affective Neuroscience*, *11*(1), 110-120. https://doi.org/10.1093/scan/nsv094

Boudreault, V., Trottier, C., & Provencher, M. D. (2018). Investigation of the self-talk of elite junior tennis players in a competitive setting. *International Journal of Sport Psychology*, *49*(5), 386-406.

Brinthaupt, T. M., Benson, S. A., Kang, M., & Moore, Z. D. (2015). Assessing the accuracy of self-reported self-talk. *Frontiers in Psychology*, *6*, 570. https://doi.org/10.3389/fpsyg.2015.00570

Carron, A. V., Widmeyer, W. N., & Brawley, L. R. (1985). The development of an instrument to assess cohesion in sport teams: The Group Environment Questionnaire. *Journal of Sport Psychology*, *7*(3), 244-266. https://doi.org/10.1123/jsp.7.3.244

Chun, M. M., Golomb, J. D., & Turk-Browne, N. B. (2011). A taxonomy of external and internal attention. *Annual Review of Psychology*, *62*, 73-101. https://doi.org/10.1146/annurev.psych.093008.100427

Crocker, P. R. E., Tamminen, K. A., & Gaudreau, P. (2015). Coping in sport. In S. Hanton & S. Mellalieu (Eds.), *Contemporary advances in sport psychology: A review* (pp.28-67). New York: Routledge.

Dickens, Y. L., Van Raalte, J., & Hurlburt, R. T. (2018). On investigating self-talk: A descriptive experience sampling study of inner experience during golf performance. *The Sport Psychologist*, *32*, 66-73. https://doi.org/10.1123/tsp.2016-0073

Furley, P., Schweizer, G., & Bertrams, A. (2015). The two modes of an athlete: Dual-process theories in the field of sport. *International Review of Sport and Exercise Psychology*, *8*(1), 106-124. https://doi.org/10.1080/1750984X.2015.1022203

Galanis, E., Hatzigeorgiadis, A., Comoutos, A., Charachousi, F., & Sanchez, X. (2018). From the lab to field: Effects of self-talk on task performance under distracting conditions. *The Sport Psychologist*, *32*, 26-32. https://doi.org/10.1123/tsp.2017-0017

Greco, S. (2017). Using argumentative tools to understand inner dialogue. *Argumentation*, *31*(2), 331-358.

Guerrero, M.C.M. (2005). *Inner speech-L2: Thinking words in a second language*. NewYork: Springer. Hardy, J. (2006). Speaking clearly: A critical review of the self-talk literature. *Psychology of Sport and Exercise*, *7*, 81-97. https://doi.org/10.1016/j.psychsport.2005.04.002

Hardy, J., Comoutos, N., & Hatzigeorgiadis, A. (2018). Reflections on the maturing research literature of self-talk in sport: Contextualizing the special issue. *The Sport Psychologist*, *32*, 1−8. https://doi.org/10.1123/tsp.2017-0141

Hardy, J., Gammage, K., & Hall, C. R. (2001). A description of athlete's self-talk. *The Sport Psychologist*, *15*, 306–318. https://doi.org/10.1123/tsp.15.3.306

Hardy, J., Oliver, E., & Tod, D. (2009). A framework for the study and application of self-talk in sport. In S. D. Mellalieu & S. Hanton (Eds.), *Advances in applied sport psychology: A review* (pp. 37-74). London: Routledge.

Hase, A., Hood, J., Moore, L. J., & Freeman, P. (2019). The influence of self-talk on challenge and threat states and performance. *Psychology of Sport and Exercise*, 101550. https://doi.org/10.1016/j.psychsport.2019.101550

Hatzigeorgiadis, A., Zourbanos, N., Galanis, E., & Theodorakis, Y. (2011). Self-talk and sport performance: A meta-analysis. *Perspectives on Psychological Science*, *6*, 348-356. https://doi.org/10.1177/1745691611413136

Kahneman, D. (2011). *Thinking, fast and slow*. New York, NY: Farrar, Straus, and Giroux.

Karamitrou, A., Comoutos, N., Hatzigeorgiadis, A., & Theodorakis, Y. (2017). A self-determination approach to understanding of athletes' automatic self-talk. *Sport, Exercise, and Performance Psychology*, *6*(4), 340-354. http://dx.doi.org/10.1037/spy0000104

Latinjak, A. T. (2018). Goal-directed, spontaneous and stimulus-independent thoughts and mindwandering in a competitive context. *The Sport Psychologist*, *32*, 51-59. https://doi.org/10.1123/tsp.2016-0044

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Latinjak, A. T., Hatzigeorgiadis, A., & Zourbanos, N. (2017). Goal-directed and spontaneous self-talk in anger-and anxiety-eliciting sport-situations. *Journal of Applied Sport Psychology*, 29, 150-166. https://doi.org/10.1080/10413200.2016.1213330

Latinjak, A. T., Hatzigeorgiadis, A., Comoutos, N., & Hardy, J. (2019). Speaking clearly … 10 years on: The case for an integrative perspective of self-talk in sport. *Sport, Exercise and Performance Psychology*, *8*, 353-367. http://dx.doi.org/10.1037/spy0000160

Latinjak, A. T., Masó, M., & Comoutos, N. (2018). Goal-directed self-talk used during technical skill acquisition: The case of novice ultimate frisbee players. *The Sport Psychologist*, *32*, 60-65. https://doi.org/10.1123/tsp.2017-0047

Latinjak, A. T., Torregrossa, M., Comoutos, N., Hernando-Gimeno, C., & Ramis, Y. (2019). Goal-directed self-talk used to self-regulate in male basketball competitions. *Journal of Sport Sciences*, *37*, 1429-1433. https://doi.org/10.1080/02640414.2018.1561967

Latinjak, A. T., Viladrich, C., Alcaraz, S., & Torregrosa, M. (2016). Spanish adaptation and validation of the Automatic Self-Talk Questionnaire for Sports. *International Journal of Sport and Exercise Psychology*, *14*(4), 402-413. https://doi.org/10.1080/1612197X.2015.1055287

Latinjak, A. T., Zourbanos, N., López-Ros, V., & Hatzigeorgiadis, A. (2014). Goal-directed and undirected self-talk: Exploring a new perspective for the study of athletes' self-talk. *Psychology of Sport and Exercise*, *15*, 548-558. https://doi.org/10.1016/j.psychsport.2014.05.007

Lench, H. C., Bench, S. W., & Flores, S. A. (2013). Searching for evidence, not a war: Reply to Lindquist, Siegel, Quigley, and Barrett (2013). *Psychological Bulletin*, *139*(1), 264-268. Doi:10.1037/a0029296.

Martinent, G., Ledos, S., Ferrand, C., Campo, M., & Nicolas, M. (2015). Athletes' regulation of emotions experienced during competition: A naturalistic video-assisted study. *Sport, Exercise, and Performance Psychology*, *4*(3), 188-205. http://dx.doi.org/10.1037/spy0000037

Miles, A., & Neil, R. (2013). The use of self-talk during elite cricket batting performance. *Psychology of Sport and Exercise*, *14*(6), 874-881. https://doi.org/10.1016/j.psychsport.2013.07.005

Morin, A., Duhnych, C., & Racy, F. (2018). Self-reported inner speech use in university students. *Applied Cognitive Psychology*, *32*(3), 376-382. https://doi.org/10.1002/acp.3404

Nicholls, A. R., & Polman, R. C. (2007). Coping in sport: A systematic review. *Journal of Sports Sciences*, *25*(1), 11-31. https://doi.org/10.1080/02640410600630654

Osborne, J. (2010). Arguing to learn in science: The role of collaborative, critical discourse. *Science*, *328*(5977), 463-466. DOI: 10.1126/science.1183944

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2016). Recommendations for creating better concept definitions in the organizational, behavioral, and social sciences. *Organizational Research Methods*, *19*(2), 159-203. https://doi.org/10.1177/1094428115624965

Tay, I. Q., Valshtein, T. J., Krott, N. R., & Oettingen, G. (2019). Mental contrasting in DanceSport: The champion's mindset. *Psychology of Sport and Exercise*, 101511. https://doi.org/10.1016/j.psychsport.2019.04.001

Van Raalte, J. L., Cornelius, A. E., Copeskey, M., Brewer, B. W. (2014). Say what? An analysis of spontaneous self-talk categorization. *The Sport Psychologist*, *28*, 390-393. https://doi.org/10.1123/tsp.2014-0017

Van Raalte, J. L., Vincent, A., & Brewer, B. W. (2016). Self-talk: Review and sport-specific model. *Psychology of Sport and Exercise*, *22*, 139-148. https://doi.org/10.1016/j.psychsport.2015.08.004

Van Raalte, J. L., Vincent, A., & Dickens, Y. L. (2019). Dialogical consciousness and descriptive experience sampling: Implications for the study of intrapersonal communication in sport. *Frontiers in Psychology*, *10*, 653. https://doi.org/10.3389/fpsyg.2019.00653

Van Raalte, J. L., Vincent, A., Dickens, Y. L., & Brewer, B. W. (2019). Toward a common language, categorization, and better assessment in self-talk research: Commentary on "Speaking clearly…10 years on". *Sport, Exercise, and Performance Psychology*, *8*, 68–378. http://dx.doi.org/10.1037/spy0000172

Van Raalte, J., Morrey, R. B., Cornelius, A., & Brewer, B. W. (2015). Self-talk of marathon runners. *The Sport Psychologist*, *29*, 258-260. https://doi.org/10.1123/tsp.2014-0159

Vealey, R. S. (1994). Knowledge development and implementation in sport psychology: A review of the sport psychologist, 1987–1992. *The Sport Psychologist*, *8*(4), 331-348. https://doi.org/10.1123/tsp.8.4.331

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Walter, N., Nikoleizig, L., & Alfermann, D. (2019). Effects of self-talk training on competitive anxiety, self-efficacy, volitional skills, and performance: An intervention study with junior sub-elite athletes. *Sports*, *7*(6), 148. https://doi.org/10.3390/sports7060148

Ziegler, S. G. (1987). Effects of stimulus cueing on the acquisition of groundstrokes by beginning tennis players. *Journal of Applied Behavior Analysis*, *20*(4), 405-411. https://doi.org/10.1901/jaba.1987.20-405

Zourbanos, N., Hatzigeorgiadis, A., Chroni, S., Theodorakis, Y., & Papaioannou, A (2009). Automatic self-talk questionnaire for sports (ASTQS): Development and preliminary validation of a measure identifying the structure of athletes' self-talk. *The Sport Psychologist*, *23*, 233-251. https://doi.org/10.1123/tsp.23.2.233

Zourbanos, N., Haznadar, A., Papaioannou, A., Tzioumakis, Y., Krommidas, C., & Hatzigeorgiadis, A. (2016). The relationships between athletes' perceptions of coach-created motivational climate, self-talk, and self-efficacy in youth soccer. *Journal of Applied Sport Psychology*, *28*(1), 97-112. https://doi.org/10.1080/10413200.2015.1074630

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